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REMARKS

In the present application, claims 1, 2 and 61-104 are pending and stand rejected in the Final Office Action mailed August 31, 2007. Reconsideration of the present application including claims 1, 2 and 61-104 is respectfully requested.

Claims 1, 2, 66-68, 72 and 73 stand rejected as being anticipated by, or in the alternative, as obvious in view of U.S. Patent No. 5,458,638 to Kuslich et al. alone. In the Response to the Arguments, the Examiner provides reasoning as to why the arguments filed June 18, 2007, have not been found to be persuasive. With regard to Kuslich, the Examiner asserts that "the cap need only be capable of being utilized with a fusion device such that is capable of engaging a through-hole therein" and that "cap (20) of Kuslich is fully capable of being used to block an opening and engage a through hole. For example, the openings (130) could be flush with the inside surface of ribs (146) t (sic) form a through hole; see Figures 14. Then the cap would engage a through hole as inferentially required." It is respectfully submitted that even if openings 130 were flush with the inside surface of ribs 146, clips 60, 148 would not engage opening 130 nor would they be capable of engaging such openings 130. As shown in Figures 10 and 19 of Kuslich, clips 60, 148 are spaced substantially inwardly from the perimeter edge of the end cap that fills and blocks the end opening in the cage where the body of the cap is located. Since clips 60, 148 are substantially separated from the perimeter of the body of the cap that fills the end opening, clips 60, 148 are not structured nor are they capable of engaging a through-hole in the cage that is not the end opening in which the cap is positioned. Nor would one of ordinary skill in the art have any reason modify Kuslich to re-position clips 60, 148 to engage the fusion device at a location other than the end opening where the occlusion body is located since Kuslich provides a device that securely engages the cap to the fusion device at the end opening of the device without intruding into the interior of the device. Therefore, it is respectfully submitted that Kuslich does not disclose or suggest claims 1, 2, 66-68, 72 and 73.

Claims 75-81 and 87-92 stand rejected as being anticipated by, or in the alternative as being obvious in view of, U.S. Patent No. 5,702,451 to Biedermann alone.

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With respect to Biedermann, the Examiner asserts that the fusion device is not positively required by the claims, and that “[f]or this reason, as long as the cap of Biedermann is capable of being utilized in the manner claimed, with any sort of fusion device, the claim language is fully met.” The Examiner further asserts that “the prongs of Biedermann are fully capable of engaging a thru-hole edge at the second or far end.” Biedermann discloses noses 15 engage the V-shaped recesses 9, 10 in the ends 7, 8 of jacket 1, and Biedermann teaches an edge 20 with an outer contour that corresponds to the inner contour of the jacket. Since prongs 21, 21’ lie within the contour defined by edge 20, and edge 20 fits within and moves along the inner contour of jacket 1 to allow noses 15 to be positioned in recesses 9, 10, prongs 20, 21’ also would fit within and move along the inner contour of jacket 1, but there is no disclosure in Biedermann that prongs 21, 21’ engage or are capable of engaging jacket 1 at a location spaced from the end opening since any such engagement would prevent seating of noses 15 in the end recesses of jacket 1. Furthermore, one skilled in the art would have no reason to modify prongs 21, 21’ to contact or engage the jacket to frictionally secure the two structures to each other since Biedermann teaches that the cap is positioned to extend away from the end of jacket 1 so that prongs 21, 21’ contact the adjacent vertebral endplate. The resulting vertebral load compresses noses 15 into the recesses 9, 10 so that noses 15 secure the cap to jacket 1, and there is no reason to modify prongs 21, 21’ to engage jacket 1. Therefore, it is respectfully submitted that Biedermann does not disclose or suggest the features of claims 75-81 and 87-92.

Furthermore, Biedermann does not disclose or suggest prongs 21, 21’ are resiliently movable relative to the occlusion body as recited in claims 81 and 92. Rather, Biedermann discloses a rigid structure for prongs 21, 21’ to support the vertebral loads. Therefore, withdrawal of this basis of the rejection of claims 81 and 92 is respectfully requested.

Claims 75 and 77-81 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kuslich et al. alone. The Examiner asserts “that it would have been prima facie obvious to make the cap of Kuslich et al. at least partially flat on the outer surface when used on the same end as cap (18”) of Kuslich for the same reasons that Kuslich does the

same in that embodiment.” As discussed above with respect to claim 1, Kuslich et al. fails to teach or suggest a cap including an elongate anchor including a length and a second end structured and configured to engage the fusion device at a location spaced from the plane as recited in claim 75. Rather, Kuslich teaches a device where the clips are spaced inwardly from the perimeter of the occlusion body of the cap such that clips are not located or otherwise structured or configured to engage the fusion device at a location spaced from its end opening. Furthermore, one of ordinary skill in the art would have no reason to modify clips 60, 148 to engage the fusion device at a location other than the end opening where the occlusion body is located since Kuslich provides a device that securely engages the cap to the fusion device at the end opening of the device without intruding into the interior of the device. Therefore, it is respectfully submitted that Kuslich does not disclose or suggest claims 75 and 77-81.

Furthermore, Kuslich does not teach or suggest 78 which recites that the first end of the elongate anchor “is attached to the rim.” The rim is defined in claim 78 to be in communication with the outer wall and the inner surface and to define an engaging surface for contacting the opening of the fusion device. In Kuslich, clips 60, 148 are located inwardly from the rim of the occlusion body so as to be able to engage the inwardly extending ribs of the cage. One of ordinary skill in the art would not modify the clips to be attached to the rim since the clips would then not be able to be positioned between ribs 146 of the cage extending into the end opening of the cage. Therefore, claim 78 also distinguishes Kuslich.

Claims 61, 62, 65, 74, 76, 87, 88, 93, and 97 were rejected under 35 USC §103(a) as being unpatentable over Kuslich et al. in view of Biedermann et al. or PCT Publication No. WO 91/06261 to Ray et al. Claims 61, 62, 65, 74, 76 88, 83 and 97 depend directly or indirectly from base claims and are allowable at least for the reasons the base claims are allowable.

Claim 87 is an independent claim directed to a cap for blocking an opening of a hollow fusion device, comprising an occlusion body, an elongate anchor projecting from and extending transversely to the occlusion body, and “said anchor including a first end attached to said occlusion body and an opposite second end, said anchor having a length

which extends axially from said occlusion body to the second end, wherein said length and said second end are structured and configured to engage the fusion device at a location axially spaced from said occlusion body.” Claim 87 is submitted as patentable because Kuslich et al. as discussed above, fails to disclose or suggest an elongate anchor including these features. Furthermore, neither Biedermann nor Ray supplies the suggestion or teaching to modify Kuslich to include these features. Ray teaches a cap that includes threads on its perimeter that engage threads at the end opening of the fusion device. Biedermann teaches that prongs 21, 21' lie in the contour defined by edge 20, and edge 20 is movably received in jacket 1 to allow noses 15 to seat in the end recess of jacket 1, but there is no teaching or suggestion that prongs 21, 21' engage the jacket even if prongs 21, 21' were positioned inside the jacket. Therefore, withdrawal of this basis of the rejection of claim 87 is respectfully requested.

Claims 1, 2, 61-64, and 86 were rejected under 35 USC §103(a) as being unpatentable over Biedermann et al. in view of Kuslich et al. The Examiner asserts that Biedermann et al. discloses a cap with an occlusion body including an anchor (edge 20) projecting therefrom. Furthermore, in view of the teaching of Kuslich et al., the Examiner contends that it would have been obvious to include a lip or barb on the edge 20 to hold it to the jacket member. The teachings of Biedermann et al. have been discussed above. Specifically, edge portion 20 is structured to lie within and move along the inner contour of jacket 21 so that noses 15 can be seated in the end recesses of the jacket. One having ordinary skill in the art would recognize that adding a lip or barb to edge 20 or prongs 21, 21' would prevent edge 20 from sliding along the jacket to seat noses 15 in the end recesses of the jacket. Thus, there would be no reason to make the proposed modification to the prongs 21 or edge 20 in Biedermann et al., and Applicant respectfully requests withdrawal of this basis of the rejection of claims 1, 2, 61-64, and 86.

Claims 69, 82, and 83 were rejected under 35 USC §103(a) as being unpatentable over Kuslich et al. in view of U.S. Patent Publication No. 2002/0138144 to Michelson. Claim 69 depends from claim 1, and each of claims 82 and 83 depend directly and indirectly, respectively, from independent claim 75. Claims 1 and 75 are patentable for

the reasons provided above, and withdrawal of this basis of the rejection of claim claims 69, 82 and 83 is respectfully requested.

Claims 82 and 83 were also rejected under 35 USC §103(a) as being unpatentable over Biedermann et al. in view of Michelson (U.S. 2002/0138144). Each of claims 82 and 83 depends directly and indirectly, respectively, from independent claim 75 and are patentable at least for the reasons claims 75 is patentable. Withdrawal of this basis of the rejection of claims 82 and 83 is respectfully requested.

Claim 94 was rejected under 35 USC §103(a) as being unpatentable over Kuslich et al., Biedermann et al., and Ray as applied to claims 61, 62, 65, 74, 76, 87, 88, 93, and 97 in further view of Michelson (2002/0138144). Claim 94 depends directly from independent claim 87 and is submitted as patentable for at least the reasons submitted herein supporting the patentability of independent claim 87, and withdrawal of this basis of the rejection of claim 94 is respectfully requested.

Claim 70 was rejected under 35 USC §103(a) as being unpatentable over Kuslich in view of U.S. Patent No. 6,605,089 to Michelson. Claim 70 depends directly from independent claim 1 and is patentable for at least the reasons supporting the patentability of independent claim 1 as discussed above.

Claim 84 was rejected under 35 USC §103(a) as being unpatentable over Biedermann et al. in view of Michelson (U.S. Patent No. 6,605,089). Claim 84 depends from independent claim 75 is patentable at least for the reasons claim 75 is patentable as discussed above.

Claims 71 and 85 were rejected under 35 USC §103(a) as being unpatentable over Biedermann et al. and Michelson (6,605,089) as applied to claim 84 above in further view of French Patent No. 2,710,519 to Robine. Claim 71 depends from claim 1, and claim 85 depends from claim 84. Claims 71 and 85 are patentable for the same reasons supporting the patentability of claims 1 and 84 and Applicant respectfully requests withdrawal of this basis of the rejection thereof.

Claim 96 was rejected under 35 USC §103(a) as being unpatentable over Biedermann et al. in view of Robine. Claim 96 depends from claim 87, which is

patentable for the reasons provided above. Therefore, withdrawal of this basis of the rejection of claim 96 is respectfully requested.

Claim 95 was rejected under 35 USC §103(a) as being unpatentable over Kuslich et al., Biedermann et al., and Ray as applied to 61, 62, 65, 74, 76, 87, 88, 93, and 97 above, and in further view of Michelson (U.S. Patent No. 6,605,089). Claim 95 directly depends from claim 87 which is patentable for reasons asserted herein. Withdrawal of this basis of the rejection of claim 95 is respectfully requested.

Claims 98-103 were rejected under 35 USC §103(a) as being unpatentable over Biedermann et al. in view of Michelson (U.S. Patent No. 6,650,089). The prior art reference (or references when combined) must teach or suggest all the claim limitations. As discussed above, Biedermann does not disclose, suggest or teach a cap including an elongate anchor with a length and a second end structured and configured to engage the fusion device at a location axially spaced from said occlusion body. Instead, edge 20 and prongs 21, 21' are structured and configured to move axially along the inner contour of jacket 1 to allow noses 15 to seat in the end recesses of jacket 1. Thus, neither edge 20 nor prongs 21, 21' provide an anchor configured as recited in claim 98. Furthermore, one of ordinary skill in the art would find no reason to modify Biedermann to include a second end structured and configured to engage the fusion device at a location axially spaced from said occlusion body as proposed in the Office Action. Prongs 21, 21' are rigid and support the vertebral column load. If prongs 21, 21' were provided with such a structure, prongs 21, 21' would contact the end of jacket 1 and prevent noses 15 from being seated in the recesses at the end of jacket 1. Withdrawal of this basis of the rejection of claims 98-103 is respectfully requested.

Claim 104 was rejected under 35 USC §103(a) as being unpatentable over Biedermann and Michelson as applied to claims 98-103 and further in view of Kuslich et al. Claim 104 is submitted as patentable at least for the reasons submitted supporting the patentability of claims 98-103. Furthermore, as discussed above, Applicant contends that one having ordinary skill in the art would have no reason to add lips or barbs to edge 20 or prongs 21, 21' since such lips or barbs would prevent prongs 21, 21' from moving

along the jacket and prevent the seating of noses 15 in the end recesses of jacket 1.

Withdrawal of this basis of the rejection of claim 104 is respectfully requested.

Claims 71, 85 and 96 were rejected under 35 USC §103(a) as being unpatentable over Kuslich et al. and Michelson (U.S. Patent No. 6,605,089) as applied to claim 70 above, and further in view of Robine. Each of claims 71, 85, and 96 is submitted as patentable at least for the reasons supporting the patentability of each underlying base claim 1, 75, and 87 as discussed above.

Reconsideration and allowance of the present application including claims 1-2 and 61-104 is hereby respectfully solicited. The Examiner is welcome to contact the undersigned to resolve any outstanding issue with regard to the present application.

Respectfully submitted

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